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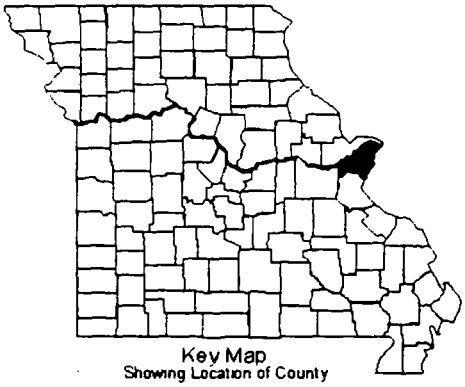
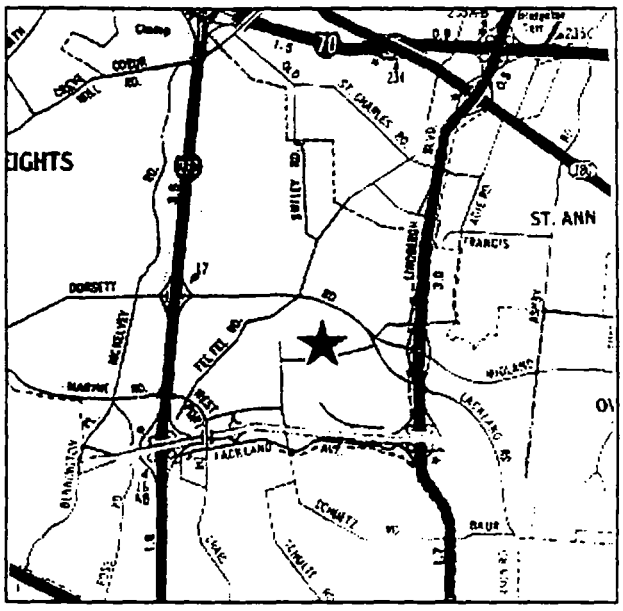
Chevron Chemical Company



Site: Chevron Chem
#: MOD006272355
Rank: 17.7
Other:
NID



Classification: Class IV, Priority 12

Site Name: Chevron Chemical Company

Address: 2497 Adie Road, Maryland Heights, St. Louis County, Missouri, SW 1/4, SE 1/4, Sec. 23, T. 46N, R. 5E, Creve Coeur Quadrangle

Waste Type: Pesticides and Arsenic

Quantity: Not determined.

Site Description:

The site is a former pesticide/fertilizer formulation plant that had been in operation for over 30 years. The site is located in a light industrial area in the Fee Fee Creek watershed. Fire debris contaminated with pesticides were buried on-site in unlined pits in the 1950's. This area is currently located under buildings and is not accessible. A change of land use was requested and approved, for use of the facility as warehouse space for a telephone book recycling operation and a publishing business. Neither business will impact or influence current site conditions. The entire property is listed on the *Registry*.

Present Property Owner: Chevron Chemical Company

Lead Agency: EPA

Environmental Problems Related to Site:

Pesticides have been detected in the soil and shallow groundwater on the plant site. In 1981, the level of groundwater contamination was as high as 2,300 parts per billion (ppb) of 2,4-D. Groundwater contamination has been found at the perimeter of the hazardous waste site, in the downgradient direction of the groundwater flow.

Remedial Actions at Site:

The Chevron Chemical Company has submitted soil sampling data, as well as groundwater monitoring data, to the Environmental Protection Agency (EPA). The company plans to continue quarterly groundwater monitoring at the site. Field work at the site includes 23 on-site monitoring wells, five off-site monitoring wells, six off-site soil borings at the suspected arsenic spill site, a surface geophysical survey, and 56 on-site soil borings. An abandoned sewer system at the facility was pumped of its contents in February 1987. Sampling of the runoff collected in the sewer indicated some pesticide and arsenic contamination.

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Surface water samples collected in March 1987 did not indicate significant levels of contamination. A sample collected from a seep below Building D indicated low levels of arsenic and pesticide contamination.

A supplemental site investigation was conducted by Chevron in 1989 that included on- and off-site soil sampling. This sampling identified areas of surface soil contamination showing high levels of pesticides and insecticides. Chevron has capped/paved the off-site contaminated loading area, and installed an additional off-site deep monitoring well to monitor contaminant migration. Previous remedial actions have included paving and capping contaminated on-site soils to reduce migration of contaminants into groundwater.

During 1995, the EPA and the DNR concluded that groundwater monitoring should be conducted annually for a period of five years by the Potentially Responsible Party. If, at the end of five years, there has not been an increase in off-site contaminants, groundwater monitoring may be discontinued.

Areas of Concern Related to Site:

This site is located in a commercial and industrial area, bordering residential areas with 3,000 people in a one-half mile radius. It is not publicly traveled or considered a public use area. Five private wells have been identified as drawing from the aquifer of concern within a three-mile radius. The primary use of groundwater is to process industrial water. The nearest downslope surface water is Fee Fee Creek, which is occasionally used for trapping.

General Geologic and Hydrologic Setting:

The site is underlain by 20 to 30 feet of loess, or wind-deposited, clayey silt, over Pennsylvanian shale or residual clay. Below the shale or clay, at a depth of about 30 to 70 feet, there is a limestone unit that is part of the uppermost aquifer at the site.

The confining unit at the base of this aquifer is the Maquoketa Shale, at a depth of several hundred feet. Water from deeper horizons of the limestone aquifer may be too saline to be considered potable, but the shallow part of the bedrock aquifer probably produces good-quality water; however, yields may be low. Groundwater is not widely used in this area, due to the presence of public surface water supplies.

There is perched water in the loess, but yields are so low that this is not considered an aquifer. The perched groundwater has been affected by contaminants at the site. Due to the presence of low-permeability material beneath the loess, the water within the loess is expected to discharge to the surface or to buried sewer lines downgradient of the site.

Public Drinking Water Advisory:

This area is served by St. Louis County Water Company, which utilizes the Missouri and Meramec Rivers as sources. Some area residents may have private wells. This site poses no threat to public water supplies.

Health Assessment:

The Chevron Chemical Company site is located at 2497 Adie Road in Maryland Heights, Missouri. The plant located on the site is a former pesticide/fertilizer formulation facility. The site is located in an established industrial area and measures about 325' X 1,300'. A well-traveled street runs south of the site, but traffic around the site itself is generally light.

Over its more than 30 years of operation, the plant had experienced several spills or leaks of materials and/or carrier products. Some potentially hazardous wastes, including debris from a building fire, are believed to have been disposed or buried on-site. Additionally, up to 4,800 pounds of the fungicide Maneb was buried on-site in 1974. Other contaminants at the site include aldrin, arsenic, 2,4-D, dieldrin, lindane, and xylene.

Investigations have indicated the presence of soil contamination both on- and off-site; however, the off-site contamination was found only in the area adjacent to the former arsenic off-loading dock. Since this off-site area is accessible by the general public, potential for human exposure is possible, although limited, because the soil in this area is now covered by gravel and vegetation, and traffic is light. The

potential for human contact with the contaminated soil is low since the site is fenced and secured, and the entire area is either paved, covered with gravel or grass, or covered with buildings. For these same reasons, the potential for exposure from airborne contaminants is expected to be low.

The potential for off-site migration of contaminants through surface water runoff exists, but the low levels of contaminants found in the runoff would indicate that the risk from this route of exposure is low.

Initial site investigations indicated the presence of contaminants in groundwater from tests of monitoring wells on the site. Investigations by the EPA have noted that Lindane and other organic chemicals were detected in deep monitoring wells off-site. In view of these findings, Chevron contracted with Woodward-Clyde to investigate the vertical and horizontal extent of lindane contamination both on- and off-site. Soil sampling efforts conducted in 1991 added greatly to the characterization of pesticides and arsenic around the railroad easement adjacent to the site. Proposals are to place a cap over the known lindane-contaminated areas, so that the movement of lindane into the groundwater is minimized. The contaminants that have been detected in groundwater either regularly or occasionally include arsenic, lindane, aldrin, dieldrin, xylenes, and the chlorophenoxy acids. Exposure to the public from groundwater contamination is not expected because: (1) the only private wells in the area are 0.5 miles away and upgradient from the site, and (2) everyone living downgradient, for a distance of at least five miles, is provided with public drinking water. A recent inspection of the site by DNR personnel indicated that the site has been leased to two to three small companies, whose business practices do not disturb soil or the parking area/entrance driveway.

Based on available information, the Missouri Department of Health feels that the potential for exposure to the general public and to workers on the site is low under present conditions. However, if conditions at the site change in the future, allowing public accessibility to the contaminants, exposure could result in adverse health effects.

For information regarding health related issues, please contact the Missouri Department of Health, P.O. Box 570, Jefferson City, MO 65102, (573) 751-6404.